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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,263	09/11/2003	Hideto Nakamura	Q77329	3529

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SUGHRUE MION, PLLC  
2100 Pennsylvania Avenue, NW  
Washington, DC 20037-3213

EXAMINER

SHERMAN, STEPHEN G

ART UNIT	PAPER NUMBER
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2629

DATE MAILED: 12/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/659,263	<b>Applicant(s)</b> NAKAMURA ET AL.	
	<b>Examiner</b> Stephen G. Sherman	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 3 October 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3 October 2006 has been entered. Claims 1-6 are pending.

### ***Claim Objections***

2. Claims 1 and 4 objected to because of the following informalities:

***Regarding claim 1***, the claim states "...and a second erasing step for inducing a second erasing discharge between the row electrodes of said row electrode pair in only discharge in which said selective writing discharge has been caused without said selective erasing discharge in each field." The claims show be changed to state: "...and a second erasing step for inducing a second erasing discharge between the row electrodes of said row electrode pair in only discharge cells in which said selective

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writing discharge has been caused without said selective erasing discharge in each field."

**Regarding claim 4**, the claim states: "...a first erasing step for inducing a first erasing discharge between said column electrode and one of the row electrodes of said row electrode pair in only discharge in which both said selective writing discharge and said selective erasing discharge have been caused in each field." The claims show be changed to state: "...a first erasing step for inducing a first erasing discharge between said column electrode and one of the row electrodes of said row electrode pair in only discharge cells in which both said selective writing discharge and said selective erasing discharge have been caused in each field."

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saegusa et al. (US 6,175,194) in view of Kishi et al. (US 6,836,261).

***Regarding claims 1 and 4,*** Saegusa et al. disclose a method for driving a display panel in which discharge cells are formed at intersections between a plurality of row electrode pairs corresponding to display lines, and a plurality of column electrodes intersecting with said row electrode pairs (see col. 1, lines 22-24), said display panel being driven in sub-fields (Fig. 3), each field of a video signal being constituted by a plurality of said sub-fields(Fig. 5), wherein:

each of at least two successive sub-fields (Fig. 5, items SF1 and SF2) including a leading sub-field (Fig. 5, item SF1) includes a selective write addressing step for setting said discharge cells to a lighted discharge cell mode by applying a scan pulse to one row electrode of said row electrode pair while applying a data pulse corresponding to said video signal to said column electrode thereby selectively causing a selective writing discharge in said discharge cells (Fig. 5, see col. 6, lines 47-51, where both SF1 and SF2 contain the step of applying a scan pulse SP to one row electrode while applying a data pulse DP corresponding to said column electrode thereby setting discharge cells to a lighted discharge mode, and thereby causing a writing discharge, by maintaining cells in a lighted discharge mode based on a data pulse of low voltage);

the sub-fields following said at least two sub-fields or leading subfield (Fig. 5, item SF3, of SF2) include a selective erasure addressing step for setting said discharge cells to an unlighted discharge cell mode by applying said scan pulse to one row

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electrode of said row electrode pair while applying the data pulse corresponding to said video signal to said column electrode thereby selectively causing a selective erasing discharge in said discharge cells (Fig. 5, where SF3 and SF2 contains the step of applying a scan pulse SP to one row electrode while applying a data pulse DP corresponding to said column electrode causing a discharge in said discharge cells, and this will be an "erasing" discharge when the data pulse is set to not discharge during that subfield);

and an emission sustain step for applying sustain pulses (Fig. 5, items IP) to said row electrode pairs thereby causing a sustain discharge to be repeated a number of times corresponding to a weighting of that sub-field only in said discharge cells that are in said lighted discharge cell mode (Fig. 6, col. 8, lines 38-54, where the weights given to the sustain discharge for each subfield are shown);

the last sub-field of each field (Fig. 6, item SF 14) includes an erasing step for inducing an erasing discharge (Fig. 6, item E) between said column electrode and one of the row electrodes of said row electrode pair belonging to said discharge cells.

Saegusa et al. fail to teach a first erasing step for inducing a first erasing discharge between said column electrode and one of the row electrodes of said row electrode pair in only discharge cells in which both said selective writing discharge and said selective erasing discharge have been caused in each field; and a second erasing step for inducing a second erasing discharge between the row electrodes of said row electrode pair in only discharge cells in which said selective writing discharge has been

caused without said selective erasing discharge in each field, said first erasing step and said second erasing step being performed immediately after said emission sustain step.

Kishi et al. disclose of a first erasing step for inducing a first erasing discharge between said column electrode and one of the row electrodes of said row electrode pair (Fig. 8, Erase period 2) in only discharge cells in which both said selective writing discharge and said selective erasing discharge have been caused in each field (see col. 7, lines 22-29, where cells that were left OFF include cells that have undergone a selective erasure addressing step and thus their erasure is induced by the erase period referred to here); and a second erasing step for inducing a second erasing discharge between the row electrodes of said row electrode pair (Fig. 8, erase period 1) in only discharge cells in which said selective writing discharge has been caused without said selective erasing discharge in each field (see col. 7, lines 9-16, where cells that were ON in a preceding sustain discharge period are cells that have been set to a lighted discharge cell mode in a selective write addressing step), said first erasing step and said second erasing step being performed immediately after said emission sustain step (Fig. 8).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Kishi et al. in the method of Saegusa et al. in order to have two erasing sub-steps within a last erasing step so as to assume that all residual charges are erased by having two erasing pulses.

**Regarding claims 2 and 5**, Saegusa et al. further teach the method for driving a display panel further comprising a reset step for initializing all of said discharge cells to said unlighted discharge cell mode (Fig. 6, item Rc, see col. 8, lines 59-61) by causing a universal reset discharge in all discharge cells before said selective write addressing step in only said leading sub-field (see col. 8, lines 59-61).

**Regarding claims 3 and 6**, Saegusa et al. further teach the method for driving a display panel wherein intermediate luminance of  $N+1$  gradations (Fig. 6 and Fig. 21, where there are 14 gradations of luminance shown) is displayed by inducing sustain charges (Fig. 6, item Ic, see col. 8, line 30) in said emission sustain steps of  $N$  leading sub-fields of each field (In Fig. 6, here  $N = 13$  and there are emission sustain steps shown for sub-fields 1-13).

### **Conclusion**

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen G. Sherman whose telephone number is (571) 272-2941. The examiner can normally be reached on M-F, 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SS

30 November 2006

AMR A. AWAD  
SUPERVISORY PATENT EXAMINER  
